



TENNESSEE DEPARTMENT OF EDUCATION

DIVISION OF CAREER AND TECHNICAL EDUCATION

2014-15 Programs of Study

Tennessee's Career and Technical Education (CTE) Programs of Study are meant to provide a relevant framework of industry-aligned, rigorous courses which progress a student in knowledge and skills year over year. They also provide invaluable opportunities for students to experience a subject they are passionate about and explore interests which could lead to postsecondary learning and future career paths. These sequenced courses also reflect and support the three credit "elective focus" requirement for graduation. Level one courses are most often taken by students in ninth grade; however, a district may make scheduling decisions that work best for their community and students.

To become a concentrator in CTE and to fulfill the elective focus requirement, a student must earn three credits in a Program of Study or a Career Cluster. Courses in a Career Cluster include those listed as part of a Program of Study (highlighted in this document), as well as courses which are identified as cluster electives (highlighted, where applicable, at the end of each listed Career Cluster).

For additional information about any courses or Programs of Study in the 16 Career Clusters, please reach out to the following Career Cluster Consultants or visit our webpage at:

http://www.tn.gov/education/cte/Career_Clusters/Career_Clusters.shtml

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Agriculture, Food, & Natural Resources

Program of Study	Level 1	Level 2	Level 3	Level 4
Veterinary and Animal Science	Agriscience ¹ (5957)	Small Animal Science (5958)	Large Animal Science (6116)	Veterinary Science ¹ (5961) -and/or- WBL Internship at Vet Office (6105)
	Supervised Agricultural Experience (5964)			
Agricultural Engineering and Applied Technologies	Agriscience ¹ (5957)	Principles of Agricultural Mechanics (5944)	Agricultural Power and Equipment (5945)	Agricultural and Biosystems Engineering ⁴ (5963)
	Supervised Agricultural Experience (5964)			
Agribusiness	Agriscience ¹ (5957)	Principles of Agribusiness (5946)	Organizational Leadership and Communications (5956)	Agricultural Business and Finance ^{2,3} (5943)
	Supervised Agricultural Experience (5964)			
Food Science	Agriscience ¹ (5957)	Principles of Food Production (6118)	Food Science and Safety (6115)	Advanced Food Science (6113)
	Supervised Agricultural Experience (5964)			
Horticulture Science	Agriscience ¹ (5957)	Principles of Plant Science and Hydroculture (6119)	Greenhouse Management ³ (5954)	Landscaping and Turf Science (5951)
	Supervised Agricultural Experience (5964)			
Environmental and Natural Resource Management	Agriscience ¹ (5957)	Applied Environmental Science ¹ (6114)	Plant and Soil Science ⁴ (5950)	Natural Resources Management (6117) -and/or- AP Environmental Science (3236)
	Supervised Agricultural Experience (5964)			

¹ Satisfies one lab science credit required for graduation.

² Satisfies ½ credit of Personal Finance required for graduation.

³ State approved dual credit course.

⁴ Local dual credit and/or dual enrollment opportunities exist for this course.

Available courses for elective credit in this cluster: *Introduction to Geographic Information Systems (GIS) (6142)*

Architecture & Construction

Program of Study	Level 1	Level 2	Level 3	Level 4
Production Design	Computer Aided Drafting I (6037)	Computer Aided Drafting II (6039)	Advanced Drafting and Design (5927)	Entrepreneurship ¹ (5934)
Electrical Systems	Construction Core (6073)	Electrical I (6074)	Electrical II (6075)	Entrepreneurship ¹ (5934)
Masonry Construction	Construction Core (6073)	Masonry I (6079)	Masonry II (6080)	Entrepreneurship ¹ (5934)
Concrete Construction	Construction Core (6073)	Concrete I (6040)	Concrete II (6041)	Entrepreneurship ¹ (5934)
Plumbing	Construction Core (6073)	Plumbing I (6081)	Plumbing II (6082)	Entrepreneurship ¹ (5934)
Heating, Ventilation, Air Conditioning, and Refrigeration	Construction Core (6073)	HVAC/R I (6076)	HVAC/R II (6077)	Entrepreneurship ¹ (5934)
Welding	Introduction to Welding (6078)	Basic Principles of Welding (6034)	Advanced Welding Applications and Certification (6033)	Entrepreneurship ¹ (5934)
Carpentry	Construction Core (6073)	Carpentry I (6035)	Carpentry II (6036)	Entrepreneurship ¹ (5934)
Interior Design	Foundations of Interior Design (6014)	Residential Interior Design (6006)	Commercial Interior Design (6122)	Advanced Interior Design (6121)

¹ Satisfies ½ credit of Economics required for graduation.

Arts, Audio/Visual Technology, & Communications

Program of Study	Level 1	Level 2	Level 3	Level 4
Printing Graphics	Digital Arts and Design I (6084)	Printing Graphics Technology I (6088)	Printing Graphics Technology II (6043)	
Design Communications	Digital Arts and Design I (6084)	Digital Arts and Design II (6086)	Digital Arts and Design III (6087)	Animation Simulation and Motion Graphics (6044)
Audio Production	Audio Production I (6045)	Audio Production II (6047)	Audio Production III (6048)	
Journalism and Broadcasting	Journalism (optional) (3008)	Broadcasting I (6049)	Broadcasting II (6050)	Broadcasting III (6083)
Fashion Design	Visual Art I (3501)	Foundations of Fashion Design (6120)	Fashion Design (6008)	Advanced Fashion Design (6009)

Available courses for elective credit in this cluster: *Interactive Multimedia Presentations (3639/3752/5897)*

Business Management & Administration

Program of Study	Level 1	Level 2	Level 3	Level 4
Business Management	Business Principles (3709/5905) -and/or- Computer Applications (3638/3721/5891)	Accounting I (3701/5910)	Business Economics ¹ (3749/3751/5898) -and- American Business Legal Systems ² (5892)	Business Management (5889) -and/or- Virtual Enterprise International ¹ (5900)
Administrative and Information Support	Business Principles (3709/5905) -and/or- Computer Applications (3638/3721/5891)	Business Communications (5888)	Administrative Management (5895)	Advanced Computer Applications (5904)
Health Services Administration	Business Principles (3709/5905) -and/or- Computer Applications (3638/3721/5891)	Health Science Education (5998)	Administrative Management (5895)	Health Information Technology (5997)

¹ Satisfies ½ credit of Economics required for graduation.

² Satisfies ½ credit of U.S. Government required for graduation.

Available courses for elective credit in this cluster: *Interactive Multimedia Presentations (3639/3752/5897), Accounting II (3702/5911), Personal Finance (3496/3767/5901), Entrepreneurship (5934), Financial Planning (3713/5890), and Banking & Finance (5899)*

Education & Training

Program of Study	Level 1	Level 2	Level 3	Level 4
Teaching as a Profession (K-12)	Fundamentals of Education (6123)	Teaching as a Profession I (6010)	Teaching as a Profession II (6125)	Teaching as a Profession III (6126)
Early Childhood Education (Pre-K-4)	Fundamentals of Education (6123)	Early Childhood Education Careers II (6016)	Teaching as a Profession II (6125)	Teaching as a Profession III (6126)
Educational Support Careers	Fundamentals of Education (6123)	Teaching as a Profession I (6010)	School Counseling (6124)	Teaching as a Profession III (6126)

Available courses for elective credit in this cluster: *Lifespan Development (6013)*

Finance

Program of Study	Level 1	Level 2	Level 3	Level 4
Banking and Finance	Business Principles (3709/5905) -and/or- Computer Applications (3638/3721/5891)	Personal Finance ² (3496/3767/5901) -and- Business Economics ¹ (3749/3751/5898) -or- Economics (3431)	Accounting I (3701/5910)	Banking and Finance (5899)
Accounting	Business Principles (3709/5905) -and/or- Computer Applications (3638/3721/5891)	Accounting I (3701/5910)	Accounting II (3702/5911)	
Financial Planning	Business Principles (3709/5905) -and/or- Computer Applications (3638/3721/5891)	Personal Finance (3496/3767/5901) -and- Business Economics ¹ (3749/3751/5898)	Accounting I (3701/5910)	Financial Planning (3713/5890)

¹ Satisfies ½ credit of Economics required for graduation.

² Satisfies ½ credit of Personal Finance required for graduation.

Available courses for elective credit in this cluster: *American Business Legal Systems (3705/3706/5982), Entrepreneurship (5934)*

Government & Public Administration

Program of Study	Level 1	Level 2	Level 3	Level 4
Public Management and Administration	Principles of Public Service (6127)	Public Management and Administration (6129)	U.S. Government and Civics ¹ (3407)	Public Law and Budgeting (6128)

¹ Satisfies ½ credit of U.S. Government required for graduation.

Available courses for elective credit in this cluster: *Court Systems and Practices (6150)*

Health Science

Program of Study	Level 1	Level 2	Level 3	Level 4
Biotechnology Research	Health Science Education (5998)	Diagnostic Medicine (5994)	Anatomy and Physiology ² (3251/5991)	Biomedical Applications ² (5992) -and/or- Forensic Science ² (5996)
Public Health	Health Science Education (optional) (5998)	Emergency Preparedness (6151)	Behavioral and Community Health (6130)	Global Health and Epidemiology (6132)
Diagnostic Services	Health Science Education (5998)	Diagnostic Medicine (5994)	Anatomy and Physiology ² (3251/5991) -and/or- Medical Terminology ¹ (5883)	Cardiovascular Services (6131) -and/or- Clinical Internship (5993)
Health Informatics	Health Science Education (5998)	Medical Terminology ¹ (5883)	Health Information Technology (5997)	Clinical Internship (5993)
Therapeutic Nursing Services	Health Science Education (5998)	Medical Therapeutics (5999)	Anatomy and Physiology ² (3251/5991) -and/or- Medical Terminology ¹ (5883)	Nursing Education (6000)
Emergency Services	Health Science Education (5998)	Emergency Preparedness (6151)	Anatomy and Physiology ² (3251/5991) -and/or- Medical Terminology ¹ (5883)	Emergency Medical Services ¹ (5995)
Therapeutic Clinical Services	Health Science Education (5998)	Medical Therapeutics (5999)	Rehabilitation Careers (5990) -or- Dental Science (6134) -or - Pharmacological Science (6133) -or- Nutrition Science and Diet Therapy ² (6007)	Anatomy and Physiology ² (3251/5991) -and/or- Clinical Internship (5993)

¹ Local dual credit and/or dual enrollment opportunities exist for this course.

² Satisfies one lab science credit required for graduation.

Hospitality & Tourism

Program of Study	Level 1	Level 2	Level 3	Level 4
Culinary Arts	Culinary Arts I (5979)	Culinary Arts II (5980)	Culinary Arts III (5981)	Entrepreneurship ¹ (5934)
Hospitality and Tourism Management	Marketing and Management I Principles ¹ (5931)	Travel and Tourism Operations (5933)	Hospitality Management (5940)	Advertising and Public Relations (5936)
Sports and Entertainment Management	Marketing and Management I Principles ¹ (5931)	Travel and Tourism Operations (5933)	Sports and Entertainment Marketing (5939)	Advertising and Public Relations (5936)

¹ Satisfies ½ credit of Economics required for graduation.

Available courses for elective credit in this cluster: *Exploration of Organizational Leadership & Marketing (5941)*

Human Services

Program of Study	Level 1	Level 2	Level 3	Level 4
Childhood Development Services	Early Childhood Education Careers I (6015)	Early Childhood Education Careers II (6016)	Early Childhood Education Careers III (6017)	Early Childhood Education Careers IV (6135)
Social Health Services	Introduction to Human Studies (6137)	Lifespan Development (6013)	Family Studies (6136)	Human Services Practicum (6138) -and/or- Psychology (3433) -and/or- Sociology (3432)
Dietetics and Nutrition	Introduction to Human Studies (6137)	Nutrition Across the Lifespan (6005)	Nutrition Science and Diet Therapy ² (6007)	Human Services Practicum (6138) -and/or- Psychology (3433) -and/or- Sociology (3432)
Cosmetology	Principles of Cosmetology (5983)	Design Principles of Cosmetology (5986)	Chemistry of Cosmetology (5984)	Entrepreneurship ¹ (5934)
Barbering	Barbering I (5972)	Barbering II (5973)	Barbering III (5974)	Entrepreneurship ¹ (5934)

¹ Satisfies ½ credit of Economics required for graduation.

² Satisfies one lab science credit required for graduation.

Available courses for elective credit in this cluster: *Personal Finance (3496/3767/5901)*

Information Technology

Program of Study	Level 1	Level 2	Level 3	Level 4
Programming & Software Development	Information Technology Foundations (6905)	Programming and Logic I (6098)	Programming and Logic II (6099)	Game Programming (5908) -and/or- AP Computer Science (3635)
Networking Systems	Information Technology Foundations (6905)	Computer Systems (6094)	Networking (6097)	Cabling and Internetworking (6093) -and- IT Clinical Internship (6096)
Web Design¹	Computer Applications (optional) (3638/3721/5891)	Web Page Design I Foundations (6100)	Web Page Design II Site Designer (6102)	Web Page Design III eCommerce (6092)

¹ Students who have strong basic computer skills or who took Computer Applications (or a similar course) in middle school can begin this program of study with the Level 2 course.

Available courses for elective credit in this cluster: *Introduction to Geographic Information Systems (GIS) (6142), Interactive Multimedia Presentations (3639/3752/5897)*

Law, Public Safety, Corrections, & Security

Program of Study	Level 1	Level 2	Level 3	Level 4
Law Enforcement Services	Principles of Law, Corrections, and Security (6155)	Criminal Justice I (5987)	Criminal Justice II (5988)	Criminal Justice III: Investigation (5989)
Fire Management Services	Principles of Fire and Emergency Services (6154)	Emergency Preparedness (6151)	Fire Science I (6152)	Fire Science II (6153) -and/or- Emergency Medical Services ² (5995)
Legal and Correction Services	Principles of Law, Corrections, and Security (6155)	Criminal Justice I (5987)	U.S. Government and Civics ¹ (3407)	Court Systems and Practices (6150)

¹ Satisfies ½ credit of U.S. Government required for graduation.

² Local dual credit and/or dual enrollment opportunities exist for this course.

Advanced Manufacturing

Program of Study	Level 1	Level 2	Level 3	Level 4
Machining Technology	Principles of Manufacturing (5922)	Principles of Machining I (5929)	Principles of Machining II (5923)	Manufacturing Applications (5926)
Electro-mechanical Technology	Principles of Manufacturing (5922)	Introduction to Electro-Mechanical (6091)	Electro-mechanical I (6089)	Electro-mechanical II (6090)
Mechatronics	Principles of Manufacturing (5922)	Digital Electronics (5925)	Mechatronics I ¹ (6156)	Mechatronics II ¹ (6157)

¹ Local dual credit and/or dual enrollment opportunities exist for this course.

Available courses for elective credit in this cluster: *Project Lead the Way (PLTW)* courses aligned to Manufacturing, and Robotics & Automated Systems (6143)

Marketing

Program of Study	Level 1	Level 2	Level 3	Level 4
Marketing Communication	Exploration of Organizational Leadership & Marketing (5941)	Marketing and Management I: Principles ¹ (5931)	Business Communications (5888) -and/or- Marketing and Management II: Advanced Strategies (5932)	Advertising and Public Relations (5936)
Entrepreneurship	Exploration of Organizational Leadership & Marketing (5941)	Marketing and Management I: Principles ¹ (5931)	Marketing and Management II: Advanced Strategies (5932)	Entrepreneurship ¹ (5934) -and/or- Virtual Enterprise International ¹ (5900)
Merchandising	Exploration of Organizational Leadership & Marketing (5941)	Marketing and Management I: Principles ¹ (5931)	Retail Operations ¹ (5938)	Marketing Research and Analysis (5937)

¹ Satisfies ½ credit of Economics required for graduation.

Available courses for elective credit in this cluster: *Sports and Entertainment Marketing (5939), Hospitality Management (5940), Travel & Tourism Operations (5933), and Personal Finance (3496/3767/5901)*

STEM

Program of Study	Level 1	Level 2	Level 3	Level 4
Engineering by Design	Foundations of Technology (EBD) (5917)	Technological Design (EBD) (5885)	Advanced Design Applications (EBD) (5920) -and/or- Advanced Technological Applications (EBD) (5919)	Engineering Design (EBD) (5921)
Engineering	Principles of Engineering and Technology (5924)	Engineering Design I (6139)	Engineering Design II (6140)	Engineering Practicum (6141) -and/or- AP Physics (3469/3238/3240)
Technology	Principles of Engineering and Technology (5924)	Digital Electronics (5925)	Robotics & Automated Systems (6143)	Engineering Practicum (6141) -and/or- AP Physics (3469/3238/3240)
STEM Education	STEM I: Foundation (6144)	STEM II: Applications (6145)	STEM III: STEM in Context (6146)	STEM IV: STEM Practicum (6147)
Project Lead the Way	Introduction to Engineering (PLTW) (6054)	Principles of Engineering (PLTW) (6052)	Choice of the following: Aerospace Engineering (PLTW) (6057) Civil Engineering & Architecture (PLTW) (6056) Biotechnical Engineering (PLTW) (6058) Digital Electronics (PLTW) (6053) Computer Integrated Manufacturing (PLTW) (6055)	Engineering Design and Development (PLTW) (6059)

Note: Courses marked EBD are part of the *Engineering by Design* curriculum package and may require additional costs and training to implement. Courses marked PLTW are part of the *Project Lead the Way* curriculum package and may require additional costs and training to implement.

Available courses for elective credit in this cluster: *Introduction to Geographic Information Systems (GIS) (6142)*

Transportation, Distribution, & Logistics

Program of Study	Level 1	Level 2	Level 3	Level 4
Automotive Maintenance and Light Repair	Maintenance and Light Repair I (5879)	Maintenance and Light Repair II (5880)	Maintenance and Light Repair III (5881)	Maintenance and Light Repair IV (5882)
Automotive Collision Repair	Transportation Core (6071)	Collision Repair: Non-Structural (6062)	Collision Repair: Painting and Refinishing (6063)	Collision Repair: Estimating and Customer Service (6149) -and/or- Collision Repair: Structural (6064)
Aviation Flight	Introduction to Aerospace (6068)	Aviation I: Principles of Flight (6070)	Aviation II: Advanced Flight (6148)	
Aviation Maintenance	Introduction to Aerospace (6068)	Aviation Maintenance I (6060)	Aviation Maintenance II (6061)	
Distribution and Logistics	Foundations of Transportation, Distribution, and Logistics (6069)	Distribution and Logistics I (6072)	Distribution and Logistics II: Management (6024)	
2-4 Cycle Engines	Transportation Core (6071)	2-4 Cycle Engine I (6025)	2-4 Cycle Engine II (6026)	2-4 Cycle Engine III (6027)
Diesel Technology	Transportation Core (6071)	Diesel: Preventative Maintenance (6067)	Diesel: Electrical/Electronic (6065)	Diesel: Engine (6066)

Available courses for elective credit in this cluster: *Entrepreneurship (5934)*

Middle School

Career Cluster(s)	6 th Grade	7 th Grade	8 th Grade
<ul style="list-style-type: none"> • Agriculture, Food, & Natural Resources 		Introduction to Agricultural Sciences (0885)	Introduction to Agricultural Sciences (0885)
<ul style="list-style-type: none"> • Arts, A/V Technology & Communications • Business Management & Administration • Finance • Information Technology • Marketing 	Keyboarding ¹ (0610)	Keyboarding (0710)	Keyboarding (0810) Computer Applications (3638/3721/5891)
<ul style="list-style-type: none"> • Education & Training • Human Services 	Introduction to Social Health ² (0562)	Introduction to Social Health (0562)	Introduction to Social Health (0562)
<ul style="list-style-type: none"> • Architecture & Construction • Manufacturing • STEM • Transportation, Distribution & Logistics 	Exploring Technology (EBD) (6047)	Inventions and Innovations (EBD) (0782)	Technological Systems (EBD) (0882)
<ul style="list-style-type: none"> • Architecture & Construction • Information Technology • Manufacturing • STEM • Transportation, Distribution & Logistics 	STEM Explorers (0649)	STEM Innovators (0749)	STEM Designers (0849)
<ul style="list-style-type: none"> • Health Science 		Introduction to Health Science (0837)	Introduction to Health Science (0837) Medical Detectives (PLTW) (0890)
<ul style="list-style-type: none"> • Architecture & Construction • Arts, A/V Technology & Communications • Information Technology • Manufacturing • STEM • Transportation, Distribution & Logistics 	Design and Modeling (PLTW) (0783)	Automation and Robotics (PLTW) (0883)	Energy and the Environment (PLTW) (0886) Flight and Space (PLTW) (0887) Green Architecture (PLTW) (0888) Magic of Electronics (PLTW) (0889) Science and Technology (PLTW) (0891)

Note: Courses marked EBD are part of the *Engineering by Design* curriculum package and may require additional costs and training to implement. Courses marked PLTW are part of the *Project Lead the Way* curriculum package and may require additional costs and training to implement.

¹Keyboarding may also be used with 4th and 5th grade students. (0410, 0510)

²Introduction to Social Health may also be used with 5th grade students. (0562)